

Madame Chair and Committee members, it's an honor to be here today, to update you on ARB's progress in implementing AB 32 and our Climate Change Scoping Plan and the significance for the nation and the world, as we draw near the one year anniversary of its approval.

Today, I'd like to cover three topics, including:

1. Current status of AB32 implementation
2. A preview of significant upcoming actions
3. The significance of AB32 to the Nation and the World

A lot has happened since 2006 when the legislature passed and the Governor signed AB32 and I think it is appropriate to reflect on what has happened in the world since that momentous decision. Just a few observations:

- ARB adopted the Scoping Plan in December of 2008 that provides a blueprint of policies and strategies that we need to achieve the goals of AB32 in a way that is technologically feasible, cost-effective, and maximizes co-benefits. The plan reflects a mix of sector-specific measures and market mechanisms, including cap and trade, which has become the model for federal climate legislation. According to a 2008 Deutsche Bank report titled "California Gleaming":

"The Scoping Plan posits a holistic approach to emissions reductions, combining direct-control measures designed to capture negative and zero cost abatement options on the demand side with the industrial-abatement options a market-based cap-and-trade scheme can deliver on the supply side. We think this integrated approach should enable California to deliver its targets in the most cost-efficient manner possible provided the cap-and-trade scheme is allowed to dovetail seamlessly with the direct-control measures. "¹
- In May of this year the Obama Administration in partnership with California and US and International automakers, directed USEPA and NHTSA to work together to establish a national GHG regulation for vehicles which effectively achieves the stringency of California's program for all vehicles sold in the US. This will do more for climate change than anything the US has done to date. The USEPA subsequently issued California our longstanding waiver request in June and we plan to implement this program in a way that comports with the federal program. This success story is a clear example of what can happen when California leads with well-crafted performance standards.

¹ http://www.dbcca.com/dbcca/EN/_media/Mark_Lewis_090308_DB_California_Gleamin.pdf

- And while the overall economic situation is certainly challenging, the clean energy sector is one of the 'shining lights' of our State economy. For example²:
 - Clean technology investment in California achieved an all time high in 2008 of \$3.3 billion, more than any other state and more than double what it was in 2007.
 - From 2005-2007 green job growth grew by 10 percent, while statewide jobs increased by only 1 percent. By green segment, job growth has been strongest in Advanced Materials (28 percent) followed by Transportation (23 percent), Air & Environment (22 percent), and Green Building (20 percent), with 20 percent of those jobs generated in manufacturing.
 - With 38% of nationwide solar energy patent registrations in recent years (2002–2007), California is increasingly the hub for solar energy technology development.
 - California's economy continues to use energy far more efficiently than the rest of the country. For example, California generates 68 percent more gross domestic product for every unit of energy we use, compared to the rest of the nation.

This last year has been a busy one. ARB has successfully approved a dozen of the 30 ARB regulations identified in the Scoping Plan, including, all nine Discrete Early Actions. In addition to measures approved by ARB, other agencies have approved four other measures including Energy Efficiency standards and programs and the existing 20 percent Renewable Portfolio Standard.

Together, the measures that have already been approved will reduce our emissions by about 70 million metric tons in 2020 compared to business as usual. This represents over 40% of the reductions need to return emissions back to 1990 levels. Measures that have been adopted include, for example:

- The Low Carbon Fuel Standard which will diversify our transportation energy system, reduce petroleum consumption by up to 20%, and dramatically increase the market for low-carbon fuels.
- Port Electrification which will reduce both GHGs and criteria pollutants
- CO2 reduction measures for port trucks and on-road trucks
- Regulation of HGWP gases from the semiconductor industry

This summer also marked the first year of mandatory GHG emissions data reporting, with a 97 percent compliance rate and two weeks ago, ARB posted that data on our website for easy public access.

² <http://www.next10.org/environment/greenInnovation09.html>

Let me turn to some of the regulations that our Board will consider over the next 12 months.

Two weeks ago, we released a Preliminary Draft Regulation that confirms California's commitment to move ahead with the first, broad-based, GHG cap-and-trade program in the United States. We briefed the assembled committee consultants of the Legislature on this regulation just last Wednesday.

The program will include a stringent declining cap to ensure absolute emission reductions at a rate that allows us to achieve our AB32 goals. The program will be linked to our partners in the Western Climate Initiative (WCI) which includes 7 western states and 4 Canadian provinces. By expanding the scope of the program through the WCI, we will more than double the number of GHG reductions compared to what we would achieve on our own and will expand the market for energy efficiency and clean energy technologies. It also includes elements such as trading, banking, and the option to use a limited number of high quality offsets which will lower the cost of the program to consumers and industry by providing flexibility to emitters to reduce where and when it is most cost-effective.

As with all of our rules, the Preliminary Draft was developed with extensive outreach to stakeholders and the public. To date, we have had 21 public meetings, to cover important aspects of the regulation like: reporting, offsets, leakage, point of regulation, linkage with other programs, enforcement and economics. We will continue the extensive dialogue with stakeholders to develop this regulation which we expect to bring to the Board for consideration next October.

One important component of the Cap-and-Trade Regulation is how allowances will be distributed or sold, and what to do with any revenue collected.

A cap-and-trade program works by establishing an absolute limit or 'cap' on the total quantity of emissions allowed into the atmosphere and then issuing a limited number of 'certificates' or 'allowances' that give the holder the permission to emit 1 metric ton of greenhouse gases. Because the number of allowances are less than what would normally be allowed on under 'business as usual' these allowances will have a value in the market. The total value of allowances could be quite significant; possibly in the range of several billion dollars annually and what we do with this value will have significant implications for the distributional impact of the program.

In May, Cal/EPA Secretary Linda Adams and I appointed an expert Economic and Allocation Advisory Committee, or EAAC. Comprised of economic, financial, and policy experts, the EAAC will advise ARB on the implications of different allowance allocation and revenue distribution strategies.

The EAAC has held five public meetings to gather information and develop their recommendations. Their draft report is due to us by the end of this month and we expect to receive their final recommendations on this topic in January 2010.

In addition to advising us on allocation, the EAAC is also advising ARB on our updated economic analysis of our overall AB 32 program.

Economic Analysis

When ARB released the scoping plan, we conducted a comprehensive economic analysis which included an evaluation of both the costs and the benefits of our climate programs. Our results show that, even when ignoring the benefits of reduced climate change impacts, our program will have a negligible impact on the overall macro-economy with the benefits of energy efficiency largely offsetting the marginal increased costs of clean energy. A comparative analysis published last week from the Center for Resource Solutions³ confirmed that our results are consistent with others that have been conducted:

“The results of CARB’s macroeconomic modeling efforts to date fall within the mainstream of results of macroeconomic analyses, which yield a broad consensus that climate solutions are affordable and economic growth will be robust at the same time that pollution reductions of the magnitude called for by AB 32 are achieved.”

ARB is committed to an ongoing evaluation of the economic impact of our policies. Working closely with EAAC and stakeholders we expect to release an updated macro-analysis of our overall program in February 2010. The report will include:

- Costs and savings of reductions, including appropriate inclusion of reductions in co-pollutants;
- Timing of capital investments and annual expenditures to repay investments;
- Sensitivity to changes in key inputs; and
- Impacts on small businesses.

I suspect many of you will hear arguments that we should wait until the economy recovers before proceeding with climate policy. I want to provide you a perspective based on everything we know about the cost of action and inaction. We are at a critical juncture in our history of energy development and use within the California and the US. With or without climate policy our economy will eventually rebound and grow significantly into the future. However we face a serious choice about that growth. We can choose to continue to follow the arc of the old path which implies a continued dependency on polluting and increasingly scarce non-renewable resources and where climate change continues to cause a further deterioration to our environment and quality of life. Or, we can choose to follow a new arc of economic growth, one that advantages clean energy and increasing efficiency, diversifying our energy economy,

³ Center for Resource Solutions “Climate Policy and Economic Growth in California: A Comparative Analysis of Different Economic Impact Projections”, http://www.resource-solutions.org/pub_pdfs/Climate%20Policy%20and%20Economic%20Growth%20in%20California.pdf

making it more resilient and providing thousands of new jobs that cannot be outsourced. I hope we choose to follow the latter path.

Let me now turn to some of the items you will be hearing more about in the 2010 legislative session, beginning with several items on our hearing calendar for tomorrow.

In its current form, the Zero Emissions Vehicle, or ZEV regulation, helps support both the Low Carbon Fuel Standard and our Pavley greenhouse gas standards for light duty vehicles. In order to achieve our 2050 GHG goals and given the long time frames inherent in clean vehicle development and deployment, we will need large numbers of zero and near-zero emission vehicles in the California market over the next decade. ARB staff will be providing a comprehensive update on the ZEV program at tomorrow's meeting. Staff will also describe our efforts to merge this criteria pollutant program with the State's greenhouse gas goals.

In fact, over the next few years, you will see more instances of incorporating GHG considerations into criteria pollutant programs. And, of incorporating criteria pollutant considerations into GHG programs.

We will also be considering the proposed High Global Warming Potential Refrigerant Management Program for Board adoption.

This will be the first statewide greenhouse gas rule to reduce refrigerant emissions from commercial and industrial refrigeration systems.

As proposed, this rule will apply to facilities such as cold storage warehouses, food preparation and processing facilities, and supermarkets.

We have been actively engaging stakeholders including commercial and professional organizations through an extensive outreach process.

This measure will result in a reduction of 8 million metric tons primarily through reducing leaks and following best management practices.

This measure is the fifth largest source of emission reductions identified in the Scoping Plan and, on average, is expected to provide a cost savings to California businesses through reduced expenditures on refrigerants.

Now I would like to take a few minutes to discuss two major elements of our plans for the energy sector, efficiency and renewable energy. Let me begin with the topic of energy efficiency.

The Scoping Plan identified over 15 million metric tons of emission reductions from efficiency in the electricity sector in 2020.

Commercial and residential building energy efficiency is one of the least costly ways to reduce emissions as the energy savings often outweigh the upfront capital investment within just a few years. ARB is continuing to be actively involved with California's two energy agencies, the CEC and CPUC, who are leading these efforts.

The CPUC recently authorized the investor-owned utilities to commit \$3.1 billion of Public Goods Charge funds to increase energy efficiency in existing buildings. These new funds reflect a shift from efficiency programs of the past 30 years, which focused primarily on lighting, toward deeper cuts in both homes and commercial buildings.

The California Energy Commission is also currently working on the next round of standards to make new buildings and appliances even more efficient. And both energy agencies are committed to pursuing zero net energy new homes by 2020, and zero net energy commercial buildings by 2030.

Recently, the CEC adopted the nation's first TV energy efficiency standards. These well-designed standards will save an estimated 6,515 gigawatt hours or enough to power 864,000 single-family homes annually in California. Over the first 10 years, the energy cost savings to California consumers is expected to be \$8.1 billion in addition to the avoided construction costs of a \$615 million natural gas power plant. As with our car standards, these standards are a model for the rest of the country and the world.

In addition to building efficiency, expiring coal contracts that won't be renewed as a result of previously passed legislation will also help reduce greenhouse gas emissions from the electricity sector. And the California Solar Initiative and Self-Generation Incentive Program will further reduce electricity sector emissions.

While several of these measures predate the Scoping Plan, they all provide important emissions reductions and are essential components of our overall approach.

By reducing electricity consumption, we reduce our need for more expensive measures and ultimately achieve our overall energy sector goals at a lower cost.

Now I'll talk a little bit about the role of the renewables in the electricity sector. As you know, ARB recently began work on a Renewable Electricity Standard under authority of AB 32. With this in mind, I wanted to provide some background and assure that our efforts are directed toward complementing and not duplicating related activities of the CPUC and the Energy Commission.

On September 15, 2009 the Governor issued Executive Order S-21-09 directing ARB to develop a 33% Renewable Electricity Standard which covers both investor-owned and publicly-owned utilities.

Renewables are an essential part to this integrated approach to the Electricity sector. This Standard, together with the existing 20 percent Renewable Portfolio Standard will achieve the 21 million metric tons of reductions identified in the Scoping Plan.

Developing the Renewable Electricity Standard over the next seven months will be a challenge. But we are committed to working with the PUC, CEC, Cal ISO, and all affected stakeholders to bring a binding regulation under our AB32 authority by July of next year.

Other Energy Sector Policies

In the water sector, the recent water legislation signed by the Governor mandates a 20 percent reduction in urban per capita water use which is the equivalent of our Scoping Plan Water Use Efficiency Measure. The legislation also promotes water recycling which will help achieve another Scoping plan measure.

The Waste Board is taking the lead role in developing a regulation for mandatory commercial recycling. We are partnering with the Waste Board on this regulation. This regulation will come to the Air Board for consideration under ARB's AB 32 authority, and we will work with the Waste Board on implementation and enforcement.

ARB staff continues to participate on the Green Collar Jobs Council to help create a well-trained workforce capable of filling the jobs necessary to promote renewable energy development, climate change strategies, vehicle fuel technology, and green buildings.

We are also working with the CEC and other state agencies to form a Blue Ribbon Committee to develop technologies and policies related to Carbon Capture and Sequestration.

Adaptation

At ARB we focus primarily on mitigation with the goal of doing our part to reduce the most severe impacts of climate change. However, if we are to be successful we must also consider how we adapt to the unavoidable impacts of climate change that are already underway. Furthermore, the line between mitigation and adaptation continues to blur as we evaluate strategies for how to deal with water supply, forests and agriculture, infrastructure and power generation. Last week, the Governor along with the California Natural Resources Agency released the 2009 California Climate Adaptation Strategy report which you will be hearing much more about in the next panel. Also, in response, the Climate Action Team is restructuring to further integrate the State's mitigation and adaptation activities.

Federal and International Action

Now, I'd like to spend some time with an overview of our perspective on federal climate change activities. There are really two fronts on which ARB is engaged: the actions of U.S. EPA and those of Congress.

Under the Obama Administration, U.S. EPA has become very active in the area of greenhouse gas reduction.

As I mentioned earlier, in June of this year, California received our long awaited light duty vehicle waiver which we will harmonize with the new national standards beginning in 2012.

EPA is working towards a final rule for the Renewable Fuel Standard which includes life-cycle GHG standards for new biofuels. We are working with EPA to share information about life-cycle modeling and land use emissions.

In September, EPA finalized their own GHG emissions reporting rule. We are working with EPA to harmonize their reporting requirements with our existing rule.

EPA is also moving forward on a proposed rule dealing with permitting of stationary greenhouse gas sources. This is being called the "tailoring rule" because EPA is tailoring existing Clean Air Act requirements to address the differences in permitting GHG emissions. ARB is closely following this due its potential implication for California sources.

Congress has also been busy since I last addressed the Committee in spring.

In June, the U.S. House of Representatives passed the American Clean Energy and Security Act of 2009 or Waxman - Markey. This was the first time major federal climate change legislation passed either house of Congress. Currently, the Senate is debating their version in various committees and expects to bring the debate to the Senate floor next spring. We believe that the best federal program includes a strong State and Federal partnership and are pleased to see this partnership represented in the leading federal bills to date.

All of the leading bills contain a mix of sector-specific measures and a broad economy wide cap and trade programs similar to AB32. By leading the way, our businesses will have a head start in the new competitive landscape where carbon is appropriately valued in a market system.

Finally, I would like to take a moment to discuss a few activities that extend far beyond our borders.

California recently hosted the second Governors' Global Climate Summit with other jurisdictions to discuss how sub-national governments can play a role in reducing GHG emissions.

Some of the results of the Summit include:

- A broad-ranging declaration to support, clean transportation, national climate change legislation, adaptation, and recognition of the role of sub-national governments in all aspects of global climate solutions.
- Following up on the deforestation MOU signed at the first Summit, this year, an MOU and a joint letter were sent to the leaders of the United States, Brazil, and Indonesia regarding the need to reduce emissions from deforestation and land degradation.
- The State of California and the Jiangsu Province of China signed a Framework Agreement to collaborate on energy efficiency, low-carbon energy, and better infrastructure and planning.

The international negotiating process on climate change revolves around the sessions of the Conference of the Parties to the United Nations Framework Convention on Climate Change (COP) which this year will be held in Copenhagen, Denmark, from December 7-18. More than twenty-thousand people, including delegates from over 190 countries and influential sub-national government, non-governmental organization and business representatives will be attending. ARB will be represented by myself, our board-member Prof. Sperling of the UC Davis Institute for Transportation Studies and senior ARB staff.

The goals of this year's conference as articulated by the UN's top climate negotiator Yvo de Boer is to provide clarity on four major issues:

- Ambitious emission reduction targets for developed countries
- Nationally appropriate mitigation actions of developing countries
- Scaling up financial and technological support for adaptation and mitigation
- Effective institutional framework to ensure GHG emissions and reductions are tracked and verified

Expectations that this years COP will produce a comprehensive international agreement are slim. Progress is, however, anticipated in the area of nationally appropriate mitigation policies and on financial/ technical assistance to developing countries in return for progress on Monitoring, Reporting, and Verification (MRV) within those countries. California, and other US states which represent more than half of the US population and much of the cutting edge clean energy technologies, are taking action and will provide leadership in Copenhagen. If we are to have any hope of achieving our long-term climate goals, we absolutely must engage with the rest of the

world in developing and deploying low-carbon and clean energy solutions to energy production, industry, transportation and land use. California, through bi-lateral and multi-lateral partnerships, will also help move the parties toward agreement on important near-term policies like energy efficiency, black carbon mitigation, low-carbon fuels and renewable energy, and saving tropical forests from deforestation and degradation. In particular, California can help provide a 'roadmap' of cost-effective policies and strategies for developing countries that are unlikely to agree to an economy-wide binding cap in Copenhagen.

In summary, you can see that much has been accomplished in 2009 but much is yet to be done. Looking forward, it is apparent that both the Board and staff will be equally busy or busier next year as well. Our action and leadership on climate change will continue to have a positive impact in the region, the nation, and the world.

Thank you.

This completes my presentation and at this time I'll take any questions you have.